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SPACE AND NAVAL WARFARE SYSTEMS CENTER SAN DIEGO
http://robot.spawar.navy.mil
(619) 553-2725

SSC San Diego Hosts Robot Pool, Designs Robots that Remove IEDs

The Space and Naval Warfare Systems Center, San Diego (SSC San Diego) and its predecessor organizations have been involved in various aspects of robotics since the early 1960s, when the Center developed the world's first Remotely Operated Vehicle, the Cable-controlled Underwater Recovery Vehicle (CURV). A couple of notable historical points and current highlights show the dedication and good work of the SSC San Diego group.

Development of robotic systems by the Center's Hawaii Laboratory in the 1980s included a Teleoperated Dune Buggy and a small ducted-fan vertical-take-off-and landing air vehicle. A formal program called the Ground-Air Telerobotics System (GATERS) increased sophistication of both ground and air vehicles. Human-like vision (stereo cameras) and hearing (dual microphones) were mounted on a robotic "slave" that would mimic the movements of a human operator's head. This provided the GATERS operator a virtual presence on a remote platform, in this case a high-mobility multi-wheeled vehicle (HMMWV) more commonly known as a HumVee. Controlled through a high-bandwidth fiber-optic cable, these real-time remote-presence technologies allowed the human operator to experience being "virtually" on the platform, driving the HumVee from several miles away via a robot in the driver's seat. The platform was configured to launch Hellfire missiles, and in live-fire exercises in 1989 at Camp Pendleton near San Diego achieved a perfect score of 12 direct target hits.

Robots Help Fight the Global War on Terrorism

The proliferating threat of Improvised Explosive Devices (IEDs) in Afghanistan and Iraq during the Global War on Terrorism led to SSC San Diego's establishing a unique Navy unit, the Robotic Systems Combat Support Platoon, a team of Navy Reservists who in their civilian jobs are experts in electrical and mechanical engineering as well as information technology systems. Members of this team were mobilized on active duty and deployed on a rotating basis to provide 24/7 repair capabilities for the robotic devices sent to detect and defuse IEDs. The SSC San Diego unit provides pre-deployment operator and maintenance training on these systems for Explosive Ordnance Disposal technicians heading overseas, and repairs damaged robots in the field so they can be quickly returned to service.

—Tom LaPuzza, Public Affairs Office, SSC San Diego

Robotics Systems Pool

In 2002 SSC San Diego was designated a center of excellence by the DoD Joint Robotics Program for its leading efforts to develop small mobile robotic systems to support the warfighter. They were then directed to create and maintain a Robotics Systems Pool of

commercial off-the-shelf resources that would enhance user exposure to viable robotic solutions, and to solicit valuable feedback for spiral development. The Center is a world-recognized leader in the development of robotic systems technology for military needs. Its mission is to accelerate the development of robotics technology to expedite the delivery of small, man-portable robotic systems to the warfighter. For more details, visit http://www.spawar.navy.mil/robots/pubs/5804-12.pdf.